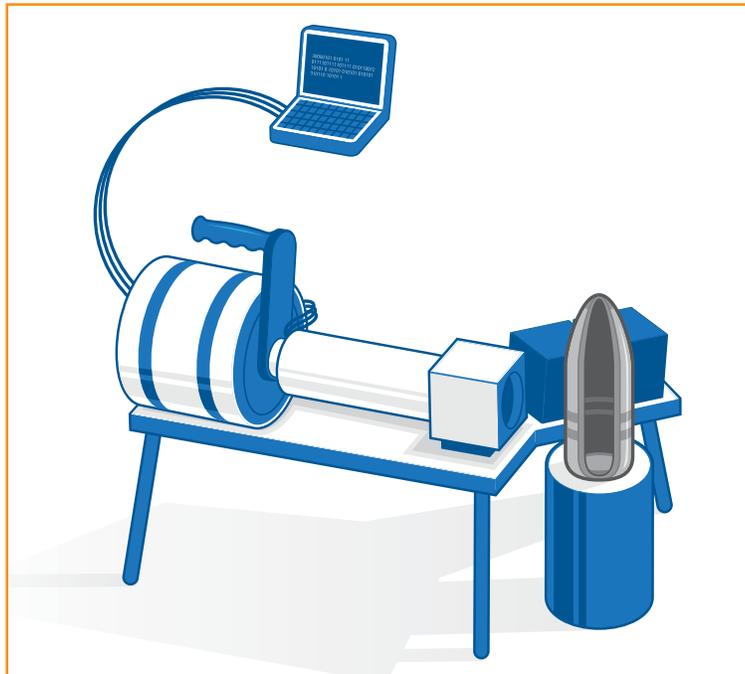




U.S. ARMY CHEMICAL MATERIALS AGENCY

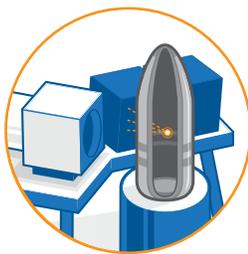
Portable Isotopic Neutron Spectroscopy

The Portable Isotopic Neutron Spectroscopy (PINS) non-intrusively detects the presence of chemical elements in suspect chemical warfare materiel.



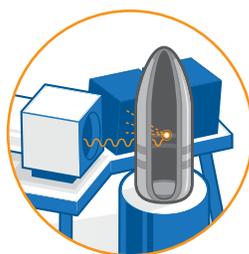
PINS

PINS technology is a transportable non-intrusive assessment system that analyzes and provides on-site information about the contents of unidentified munitions without opening them. This greatly reduces risk to the public, workers and emergency response personnel by rapidly obtaining detailed information and distributing it to the appropriate authorities and responders.



STEP 1

PINS uses atomic particles called neutrons.



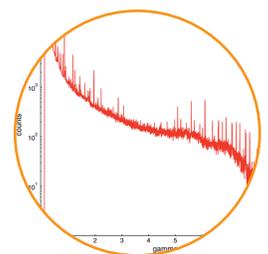
STEP 2

Neutrons penetrate container walls and interact with atomic nuclei. The nuclei emit radiation called gamma rays.



STEP 3

The energy intensity pattern, or spectrum, of these gamma rays is unique for each chemical element.



STEP 4

Analysis of a recovered item's unique gamma ray spectrum allows identification of key chemical elements.

For more information, contact the CMA Public Affairs Office at (410) 436-3629 (800) 488-0648